SCHOOL OF APPLIED SCIENCES

DEPARTMENT OF COMPUTER SCIENCE

FIRST SEMESTER 2023/2024 ACADEMIC SESSION

Course Title: Digital Electronics **Course Code:** COM 112

Class: ND/FT **Time:** 2 hours

Instruction: Answer ANY Four

Question One

a. The basic functions of an integrated circuit in a computer system, explain briefly?
b. State the main components of an integrated circuit.
c. How has the development of integrated circuits transformed modern computing?3 points.

Question Two

a. What is number system with examples in digital electronics?
b. What is difference between bit and byte?
c. Why is number system important in computers? 3 points.

Question Three

a. Explain briefly the following; (i) Logic gates (ii) Universal gates (iii) Basic gates
b. What is the output of a not gate where when input 0 is applied?
c. Which logic gate is known as inverter?
d. What is the Boolean expression for OR gates?
e. What is the Boolean expression for the XNOR gate?

Question Four

a. What is the truth table in Boolean algebra with two examples?
b. Give the mathematical statement of distributive law?
c. Name three Boolean operators you know.
d. How is Boolean algebra used in real life?

Question Five

a. Write three main disadvantage of the Diode-Transistor logic circuit.
b. A flip-flop is also known as what?
c. Convert 215_8 to decimal.
d. Convert 2ac to binary number system.

Question Six

a. Define shift register.
b. Describe the parallel transfer data registers.
c. What are the difference between serial and parallel data transfer? 3p0ints
d. The sum of product can be written as (x+y) (x+y) true or false

THE FEDERAL POLYTECHNIC, EDE
SCHOOL OF BUSINESS AND MANAGEMENT STUDIES
DEPARTMENT OF BUSINESS ADMINISTRATION AND MANAGEMENT
SECOND SEMESTER EXAMINATION, 2020/2021 SESSION

Course Title: Introduction to Entrepreneurship **Course Code: EED 126/EDP 126/EED 213**
Class/Dept.: ND I (FT, DPT) & RPT I, II **Time Allowed: 2 hours**
INSTRUCTION: *Attempt any Four (4) questions in all. Present your answer clearly and orderly. Cross out all unused spaces in the answer booklet.*

1(a) Define motivation and differentiate between intrinsic motivation and extrinsic motivation.
(b) State six (6) ways in which an entrepreneur can motivate his/her employees.
(c) Identify four (4) likely barriers to motivation in a business enterprise.

2(a) List any six (6) resources that constitute productive and /or economic input in a business venture
(b) Highlight six (6) constraints / challenges that both practising and prospective entrepreneurs may face in your country.
(c) In parallel form, give the converse of these classifications of business enterprises
(i) Local and /or _____enterprise
(ii) _____ and /or Social enterprise
(iii) Individual and /or _____ enterprise
(iv) _____ and /or Service enterprise
(v) Profit and /or _____enterprise
(vi) _____ and /or Large enterprise
(vii) Consumer and /or _____ enterprise
(viii) _____and/or Informal enterprise

3. Peak optimism and contagious enthusiasm are not always a twin guarantee for business success. On this premise, enumerate and briefly elucidate five (5) reasons why business fails in Nigeria.

4. Characteristics and qualities that make entrepreneurs unique and able to achieve success abound in ample proportions. Be that the case: identify and explain any five (5) of these distinct characteristics and qualities.

5. The benefits of entrepreneurship to both government and society at large cannot be over- emphasized. In the light of this, *state* and *explain* any five (5) benefits *entrepreneurship* offer a society and developing nation like your country, Nigeria.

6. Entrepreneurship efforts and ventures are not exempted from possibility of loss, failure, hazard, etc that are inherent in any sphere of life. In this vein:
(a) Define entrepreneurial risk
(b) Itemize and briefly explain any four (4) of the possible entrepreneurial risks.

BEST OF LUCK!

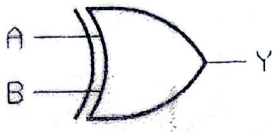
THE FEDERAL POLYTECHNIC, EDE
DEPARTMENT OF COMPUTER SCIENCE
2020/2021 FIRST SEMESTER EXAMINATION

Course Title: Introduction To Digital Electronics | Course Code: COM 112
Class: ND I FT & DPT | Time: 2hrs 30 mins

Attempt Questions 1, 2 and any other two

QUESTION 1

a) Consider the logic circuit diagram below



i) What logic gate does the above logic diagram represent?
ii) Implement the logic diagram using NOR gate only
iii) Implement the logic diagram using basic gates only
iv) Using a detailed and well spread out truth table, show step by step input and output combinations of the logic circuit diagram in a(iii) above.
v) Represent the logic circuit diagram in a(iii) using IEEE/ANSI Standard Symbols.

b)

(i) Simplify the Boolean function below using Karnaugh Map (K-Map):
$F(A,B,C,D) = \sum(0,2,5,7,8,10,13,15)$

(ii) Draw the logic circuit for the following:
a) A four-wide, two-input OR-AND-INVERT gate.
b) A two-wide, four-input AND-OR-INVERT gate.

QUESTION 2

a) Explain your understanding of Universal gates. Explain their distinguishing features from Basic gates.
b) Using Nand gate, implement the following gates:
(i) And gate
(ii) Or gate
c) Simplify the following:
(i) $AB + \overline{AC} + A\overline{B}C\ (AB+C)$
(ii) $(A\overline{B} + \overline{A}B)C + AB$
d) Divide 110001_2 by 111_2

QUESTION 3

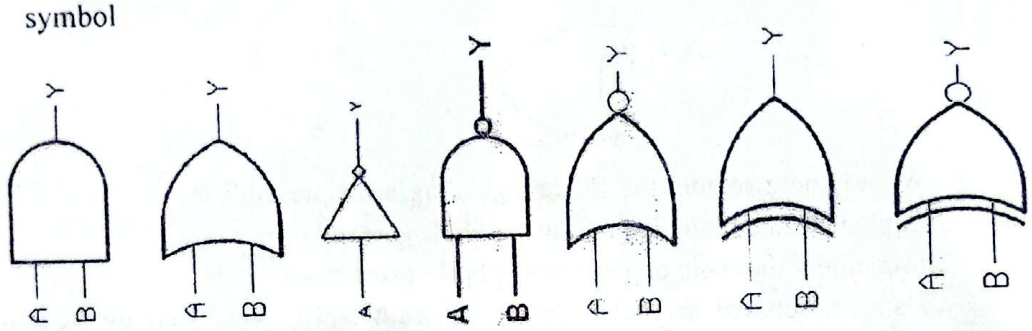
a) Represent numbers 0-9 using Seven Segment Display truth table

b) Given the Boolean function $F(A,B,C,D) = A\bar{B}C + \bar{A}B\bar{D} + BC$ in its simplified form. Turn it to its canonical form.

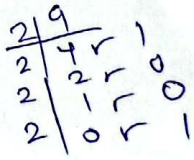
c) Simplify $A + \bar{A}B$

QUESTION 4

a) Given the logic gates below, represent each logic gate in the IEEE/ANSI Standard symbol



b) Convert $(28.125)_{10}$ to binary



QUESTION 5

a) Using BCD addition, add 947 and 586

b) Perform the following operation in 8 bits using 2's Complement:

$$-25 - 14$$

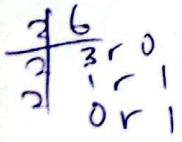
c) Solve the following:

(i) 110011_2 to gray code

(ii) 100101_{gray} to binary

(iii) Find the excess 3 code of $(237.85)_{10}$ in binary

(iv) Find the decimal equivalent of the excess 3 code 1100101000011.01110101_2



QUESTION 6

a) Using NOR gate, clearly implement the following logic gates:

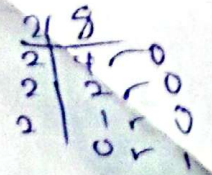
(i) EX-OR gate

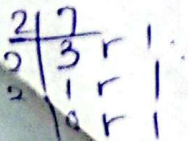
(ii) EX-NOR gate

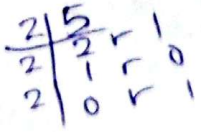
b) Solve the following:

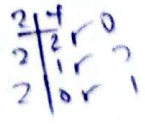
(i) Find the binary equivalent of $(374.26)_8$

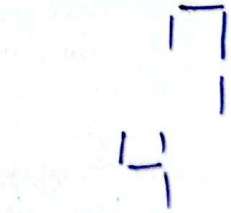
(ii) Find the octal equivalent of $(2F.C4)_{16}$

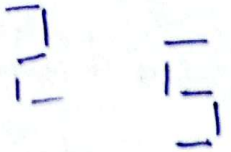


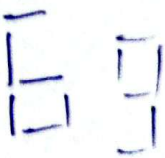












THE FEDERAL POLYTECHNIC, EDE
SCHOOL OF APPLIED SCIENCES
DEPARTMENT OF COMPUTER SCIENCE
2017/2018 SECOND SEMESTER EXAMINATION

COURSE TITLE: INTRODUCTION TO SYSTEM ANALYSIS COURSE CODE: COM 125
CLASS: NDI FT & NDI DPT COMP. SCIENCE. Time Allowed: 2hrs 30Mins
Instruction: Answer ALL Questions in Sections A & B and any other THREE Questions from SectionC.

1. The use of passwords to enter a system is an example of--------. A. Detective measures B.Recovery measures C. Preventive measures D. Defective measures.
2. In system development, system design objectives are formulated in---------. A. Feasibility study B. System implementation C. System control D. System analysis.
3. System analysis deals with "what" while system design deals with -------. A. how B. where C. when D. who.
4. A suite of computer application package that can perform multiple functions needed by several users is called-------. A. Integrated package B. Off the shelf package C. Bespoke package D.Application package.
5. Which type of feasibility study appraises the impact of a proposed solution within the organization?. A. Operational B. Social C. Economic D. Technical
6. Education is different from training in that while education promotes understanding, the purpose of training is: A. Awareness B. General appreciation C. Skill building D. in-depth understanding
7. Strategic level information is primarily concerned with what?. A. market dominance B. long term goals C. high margin D. efficiency.
8. Tactical level information is primarily targeted at which one of the following?. A. middle management B. operation C. logistics D. top management.
9. The product of system design is--------. A. system specification B. requirement specification C. physical design D. logical design.
10. Training for end users should be focused on how to handle-------- tasks. A. powerful B. special C. routine D. bulk.
11 System testing is conducted for the development team while acceptance testing is carried out for: A. Managers B. Vendors C. steering committee D. end users.
12 The process of moving data from the existing system into files in the new system is known as: A. File management B. data transfer C. file conversion D. file movement.
13 The conversion method of running operations in the new system concurrently with the old system for a predetermined period is called-------- A. pilot B. phased C. direct D. parallel.
14 The requirement of GLO Nigeria to update account balances within one second is the concern of --------. A. social B. technical C. operational D. economic.
15 Data is transformed into information through--------. A. sorting B. aggregation C. integration D. processing.
16 A company with wide geographical spread and diverse business activities is likely to adopt------- Conversion method. A. parallel B. pilot C. direct D. phased.
17 The distinguishing feature of mechanistic system is-------. A. control B. feedback C predictability D. monitoring.
18 Modifying an operational system to generate additional reports is an example of-------. A. system implementation B. system maintenance C. system design D. system conversion
19 The most important feature of typical system is--------. A. feedback B. control C. objective D. interdependence.
20 Which of the following best connotes the meaning of the word "system"?. A. conformity B. Connections C. consistency. D. competence. **(20mks)**

SECTION B: Fill the space provided with the correct answer.

1. Management Information System produces---------- to management for decision making.
2. A system that interacts with other systems in its environment is called----------.
3. The functional area of any organization that is responsible for the recruitment and welfare of workers is called----------
4. The process of replacing the old system with the new one at a go during system changeover is called----------
5. The widely used method of fact finding during system investigation is----------.
6. Low level managers makes day- to-day-------- decisions to schedule and control specific tasks in an organization.
7. In order to allow users to operate information system correctly and efficiently, the users must be----------.
8. An information system that manipulates knowledge-based data and make associations and inferences is known as----------.
9. The written material consisting of instructions and descriptions of the procedures for operating a system is called----------.
10. The act of determining if a system is inefficient at any point and if the inefficiency is causing a problem is called----------. **(10mks)**

SECTION C: Answer any THREE Questions from this section.

1. Write short notes on each of the following types of systems.
   a. Transaction Processing System b. Decision Support System c. Expert System
   d. Self regulation system e. Executive Information System. **(10mks)**

2. a. Who is a manager?. Hence list the **four** basic tasks performed by a typical manager.
   b. The major purpose of system specification is to communicate system requirements to the users of the system. You are required to:
   i Define system specification
   ii Enumerate the users of system specification
   iii State any **four** uses of feasibility study report. **(10mks)**

3. a. The Managing Director of an organization might want to develop a new system for some reasons. You are required to:
   i Define system development
   ii Enumerate any **five** reasons for developing Information System.
   b.List the activities involved in the implementation of a system.
   c.State any **two** sources of request for system development. **(10mks)**

4. a. What is the difference between **off-the-shelf** and **bespoke** packages.
   b. State **four** advantages and **four** disadvantages of using off-the-shelf packages. **(10mks)**

5. a. State any **three** purposes of system maintenance.
   b. Enumerate any **five** reasons for appraisal during the development of a system.
   c. List any **two** advantages of parallel changeover over other methods of conversion. **(10mks)**

FEDERAL POLYTECHNIC EDE
SCHOOL OF APPLIED SCIENCES
DEPARTMENT OF COMPUTER SCIENCE
SECOND SEMESTER 2020/2021 EXAMINATIONS

COURSE TITLE: Introduction to System Analysis and Design **CODE: COM 125 TIME 2hr 30mnts**
INSTRUCTION: Attempt all questions in SECTION A and FOUR (4) question in SECTION B

SECTION A

1. System Study involves. A. Study of an existing system B. Documenting the existing system. C. Identifying current deficiencies and establishing new goals D. All of the above E. None of the above
2. The primary tool used in structured design is a:
A. structure chart B. data-flow diagram C. program flowchart D. module E. None of the above
3. In Prototyping? A. BASIC is used B. COBOL is used C. Fourth Generation Languages are used D. system is documented E. None of the above
4. The step-by-step instructions that solve a problem are called _____. A. An algorithm B. A list C. A plan D. A sequential structure E. None of the above
5. The approach used in top-down analysis and design is
A. to identify the top level functions by combining many smaller components into a single entity
B. to prepare flow charts after programming has been completed C. to identify a top level function an d then create a hierarchy of lower-level modules and components. D. All of the above E. None of the above
6. Which of the following is not a factor in the failure of the systems developments projects?
A. Size of the company B. Inadequate user involvement C. failure of systems integration D. Continuation of a project that should have been cancelled E. None of the above
7. The survey process is often divided into 2 main phases: A. Preliminary and Detailed survey B. Output and Detailed survey C. Feasibility and Processing survey D. Purpose and Preliminary survey E. None of the above
8. _____ and _____ systems are common types of systems. A. Users and Physical system B. Living and Natural C. Natural and Man-made D. All of the above E. None of the above
9. Documentation is prepared. A. at every stage B. at system design C. at system analysis D. at system development E. None of the above
10. Automated systems can be classified as a man-made system. True/False
11. Which of the following is not true of the conversion phase of the development life cycle?
A. the user and systems personnel must work closely together. B. steps must be taken to phase out the old system C. documentation should be emphasized D. the non-machine components of the system should be considered E. None of the above
12. Small changes in the organization's development may result in bigger impacts on the information system's requirements. True / False
13. Positive testing is. A. running the system with line data by the actual user B. making sure that the new programs do in fact process certain transactions according to Specifications C. is checking the logic of one or more programs in the candidate system D. testing changes made in an existing or a new program
E. None of the above
14. Data Definition Language (DDL). A. describes how data are structured in the data base B. specifies for the DBMS what is required; the techniques used to process data C. determine how data must be structured to produce the user's view D. All of the above
15. During the maintenance phase. A. System requirements are established B. System analysis is carried out C. Programs are tested D. All of the above E. None of the above
16. To run the old system and the new system at the same time for a specified period, the system implementation approach used is. A. pilot B. phased C. parallel D. direct E. None of the above

17. Top-down programming is
A. a group of related fields B. a map of the programmer's view of the data C. an approach in which the top module is first tested then program modules are added from the highest level to the lowest level D. a series or group of components that perform one or more operations of a more complex system E. None of the above
18. Elapsed time, between initiating a query and receiving a response is called A. response time B. waiting time C. processing time D. Turnaround time E. None of the above
19. An appraisal, of a system's performance after it has been installed, is called system
A. planning B. review C. maintenance D. batch Processing E. None of the above
20. Which of the following is not a characteristic of good test data?
A. users do not participate at this preliminary stage B. should be comprehensive C. every statement should be executed D. All of the above E. None of the above

SECTION B

1a. Describe feasibility study. 2mrks
1b. List all the ways that feasibility study can be tested. 3mrks
1c. Cost of operation of the existing system can be calculated from cost records, identify the items that need to be investigated. 5mrks

2a. Explain the two benefits of proposed system. 3mrks
2b. Explain survey method and give two reasons why an interview will fail. 4mrks
2c. What is the difference between an information system and a computer application? 3mrks

3a. What is System? 1mrk
3a. Define system development life cycle and state all stages of SDLC 5mrks
3b. Describe four system requirements. 4mrks

4a. What is the difference between systems analysis and systems design? 3mrks
4b. Explain why system analysis is important. 2mrks
4c. Describe a business problem Federal Polytechnic Ede has that you would like to see solved. How can information technology help solve it? 5mrks

5a. What is Information System? 1mrk
5b. What is meant by Agile Development and iterative development? 3mrks
5c. What are the 6 core processes for software systems development? 5mrks

THE FEDERAL POLYTECHNIC EDE OSUN STATE NIGERIA
SCHOOL OF APPLY SCIENCES

SECOND SEMESTER EXAMINATION / 2017/2018 SESSION

DEPARTMENT: COMPUTER SCIENCE ND I FT AND ND I DPT

COURSE TITTLE: PC UPGRADING AND MAINTENANCE

COURSE CODE: COM 126 TIME: $2^{1/2}$ Hours

SECTION A (15marks) ANSWER ALL

1 The most items to be continuously upgraded are _____ (3marks)

2 Upgrading is a term used to describe updating a _____ or adding a_____ (4marks)

3 The function of CMOS Battery is to _____ (3marks)

4 In CRT monitor the electron gun produces_____ (2marks)

5 Another name for Mother are _____ (3marks)

SECTION B FIVE QUESTIONS ANSWER THREE (3)

1a State the six (6) simple guideline when you want to troubleshoot hardware problem. (6marks)

b What is (i) power supply unit? (2marks)

(ii) Power conversion? (3marks)

c. Define the term chipset. (4marks)

2a Discuss Electro-static Discharge. (4marks)

b Highlights and Explain the reason and benefits you should expect when upgrading hardware device. (3mark)

c State four (4) CPU socket supporting :Intel and AMD CPU respectively (8marks)

3a Highlights (10) Ten basic maintenance tools. (5marks)

b Explain all these thin-wire

i. Power switch (2marks)
ii. Power LED (2marks)
iii. Reset switch (2marks)
v. HD LED (2marks)
v. Speaker connection (2marks)

4 a What are the functions of power supply unit? (3marks)

b What is **CPU** and state the function of **CPU** (5marks)

(ii) The most important component on a motherboard is the chipset which consist of two component mention it. (2marks)

c Explain manual Backup and Backup using wizard . (5mark)

5. Enumerate five component on the motherboard. (5marks)

b State Five (5) types of keyboard based on forms or shape. (5marks)

c Differentiate between **Monochrome** and **Color** monitor (5marks)

4 a What are the functions of power supply unit? (3marks)

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c Explain manual Backup and Backup using wizard . (5mark)

5. Enumerate five component on the motherboard. (5marks)

b State Five (5) types of keyboard based on forms or shape. (5marks)

c Differentiate between **Monochrome** and **Color** monitor (5marks)

QUESTION THREE

(a) List and explain the basic step involved in problem solving. **(6marks)**

(b) For the following expression, write the Basic statement to solve these expressions and show the order of precedence. (i) $P = v^2 - u^2 + t^2$ (ii) $P = \frac{x^2}{y^2} - k(r - t)$ (iii) $P = \frac{(x+y)^2}{z}$ (iv) $P = \left(\frac{x^2}{y+z}\right)^2$ **(4marks)**

QUESTION FOUR

Write short note on the following Visual Basic objects:

(i) Combo box

(ii) List box

(iii)Check box

(iv)Text box

(v) Command box **(10marks).**

QUESTION FIVE

a) Design a form and write a **Visual Basic** sample code to calculate Area of a triangle, given that Area=½bh. **(3.5marks)**

b) Design a form and write a **Visual Basic** sample code for a simple calculator machine, the machine must be able perform the following operations: **Addition, Subtraction, Multiplication and Division.** **(5marks)**

c) Itemize the three (3) mode operate by Visual Basic programming language. **(1.5 marks)**

QUESTION SIX

(a) Write a QBASIC program that will generate and print the sum of the series. Given that $1 + {}^1/_3 + {}^1/_5 + {}^1/_7 + \ldots\ldots\ldots\ldots {}^1/_{99}$. **(5marks)**

(b) Highlight the process in developing an application program in Visual Basic programs. **(2.5marks)**

(c) Highlight the various steps to start or loading QBASIC program. **(2.5marks)**

FEDERAL POLYTECHNIC EDE
OSUN STATE

SCHOOL OF APPLIED SCIENCES
Computer Science Department

COM113 – Introduction to Programming Concepts Using Q-Basic/Visual Basic

Level: Comp. Sci ND I FT & DPT

First Semester Examination
2023/2024 Academic Session
May 2024

Instruction
Time Allowed: 2½ Hours
Answer ALL Questions in section A and any FOUR (4) in Section B.

SECTION A: ANSWER ALL QUESTIONS

1. The errors that occur during execution of the program due invalid operation or beyond the control of programmer is refer to _____ (a) Syntax (b) Runtime (c) Busy time (d) Semantic
2. The following are example of numeric function except _____ (a) TAN(x) (b) MID$ (c) SQR(x) (d) COS(x)
3. Another name for looping statements in computer program is known as _____ (a) Branching (b) Selection (c) Repetition (d) All of the above
4. The _____ translator that converts an entire program written in a high-level language and translates it into an executable. (a) Assembler (b) Interpreter (c) Compiler (d) None of the above
5. The properties of a good algorithm is must always terminate after a _____ number of steps. (a) Finite (b) Input (c) MID$ (d) Output
6. The _____ is method of describing computer algorithm using combination of natural language and programming language. (a) Flowchart (b) Pseudo code (c) Algorithm (d) None of the above
7. The statement in BASIC that allows the user to assign a value to a variable. (a) DIM (b) LET (c) DATA (d) MID$
8. The Statement that accept values from DATA statement (a) DIM (b) LET (c) MID$ (d) READ
9. The method of describing computer algorithms using a combination of natural language and programming language is called _____ (a) algorithm (b) pseudo code (c) flowchart (d) program
10. An algorithm is (a) The output of the instruction to computer (b) The required data to be processed (c) A finite sequence (or series) of precise instructions for solving a problem (d) Problem definition
11. The following symbol are used in flowcharting except (a) The terminal symbol (b) The process symbol (c) The input/output symbol (d) The cross symbol
12. The CLS statement (a) Is to instruct the user to enter data (b) Is used for clearing the screen (c) To enter data (d) All of the above
13. The maximum length of a Qbasic file extension is _____. (a) 6 (b) 8 (c) 4 (d) 3
14. The windows which hold the various controls (buttons, text boxes, etc.) which make up application is called _____ (a) Encapsulation (b) Object (c) Class (d) Form
15. The act of joining one or two words together to formed one long word is called _____. (a) Encapsulation (b) Incantation (c) Inheritance (d) Concatenation
16. How many default tools available in Visual Basic. (a) 40 (b) 31 (c) 21 (d) 41
17. The _____Window displays a list of all forms and modules making up your application. (a) Code (b) Properties (c) Form (d) Project
18. A string entered into a text box can be converted to a numeric data by using the function_____ (a) Val(text) (b) Val(string) (c) Val(Alphanumeric) (d) None of the above
19. The window which allow you to enter parameters which define how these controls work is called_____(a) Properties Window (b)Tool box (c) Toolbar (d) None of the above
20. The windows which hold the various controls (buttons, text boxes, etc.) which make up application is called _____(a) Form (b) Encapsulation (c) Object (d) Class

SECTION B: Answer FOUR (4) Questions ONLY

QUESTION ONE

(a) Write a flowchart and Qbasic program to convert Temperature to Fahrenheit to Celsius. Given that: C = 5/9 * (F - 32). **(2.5marks)**

(b) Highlight five (5) application area of high level program. **(2.5marks)**

(c) In tabular form briefly discussed five (5) flowchart tools with symbol name and their function. **(5 marks)**

QUESTION TWO

(a) In tabular form highly five (5) most widely used high level programming language with their purposes. **(2.5marks)**

(b) Write a QBASIC **program** and associated **flowchart** to calculate the Area of triangle, given that area of $A = {}^{1}/_{2}BH$ where B is the base and H is the height. **(5marks).**

(c) List any **FIVE** (5) application area of Object Oriented Programming. **(2.5marks)**

THE FEDERAL POLYTECHNIC, EDE
SCHOOL OF APPLIED SCIENCES
COMPUTER SCIENCE DEPARTMENT
FIRST SEMESTER EXAMINATION 2023/2024 SESSION

COURSE: COMPUTER APPLICATION PACKAGE I **CLASS:ND 1FT & DPT COMP SCI**
CODE: COM 115 **TIME: 2HRS**

INSTRUCTION: ANSWER QUESTION ONE AND ANY OTHER THREE QUESTIONS.

Question 1

Computers work through an interaction of --1-- and --2--. The brain of computer system is --3--. The built-in memory of a computer is called --4--. System software focuses on handling --5-- and Application software focuses on completing --6--. --7-- function is to give instructions and data to the computer. --8-- is a program which controls the overall operations/activities of the computer. The only language that computer understand is called --9--. The input devices --10-- data while output devices --11-- data. The essence of Language translators is --12-- of a particular program to another. Cold booting is started by pressing --13-- and warm booting by pressing --14--. --15-- serves as intermediary between the users and computer hardwares. A medium of getting information out of the computer system is --16--. The three types of translator are --17--, --18-- & --19--. The set of instructions giving to computer to perform a specific task is called --20--. ---21--- converts programming instructions written by programmers into a language that computer can understand and process. The total number of column in Microsoft Excel is –22--. Excel file that consists of one or more worksheet is –23--. --24-- specifies the type of operation to perform on operands. –25-- are programs expressly designed to make the computer more efficient and flexible as human tool. The place where cursor is presently blinking is called –26-- and the output device used for printing vector graphics or drawing graph is --27--. –28-- is total movement of a text to another place. The content of an active cell is being displayed by –29--. A long row of buttons always in small pictures or images that are representing various commands is --30--

30Marks

Question 2

(a) Define the Word Processing **2Marks**

(b) Give Five (3) examples of Word Processing programs you know **3Marks**

(c) What are the short-cut key to carry out the following:

1. Starting afresh
2. Retrieving a document
3. Redo an action
4. Highlighting a page
5. Back to the beginning a document **1Mark each =5Marks**

Question 3

(a) Define Operating System **2Marks**

(b) Briefly discuss the five(5) main function of an operating system **5Marks**

(c) Differentiate between RAM and ROM **3Marks**

Question 4

(a) Briefly explain the following terms:

1. Cell Pointer
2. Word Wrap
3. Label Data
4. Spreadsheet
5. Contiguous cell

1Mark each= 5Marks

(b) Discuss the two(2) categories of Software **5Marks**

Question 5

(a) Explain the following types of operators and give example of how to use them.

1. Concatenation Operator
2. Arithmetic Operators
3. Comparism Operators
4. Reference Operators

$2^{1/2}$Mark each = 10Marks

Question 6

(a) Differentiate between Operand and Operators. **1Mark**

(b) What is an information and give four(4) examples of output device. **3Marks**

(c) State the two(2) characteristics and examples of these types data

1. Value Data
2. Label Data
3. Formula Data

6Marks

THE FEDERAL POLYTECHNIC, EDE

SCHOOL OF APPLIED SCIENCES, DEPARTMENT OF STATISTICS
FIRST SEMESTER EXAMINATION 2023/2024 ACADEMIC SESSION
COURSE TITLE: LOGIC AND LINEAR ALGEBRA COURSE CODE: MTH 111 & ARC 107
CLASS: ND I FT&DPT, COMP. SCI, STAT. QS, BT, EST, SG,URP & ARCHY **TIME ALLOWED: 2 HOURS**
INSTRUCTION: ATTEMPT ANY FOUR (4) QUESTIONS

QUESTION ONE

(a) Show that $\{(p \Rightarrow q) \wedge (q \Rightarrow r)\} \Rightarrow (p \Rightarrow r)$ *is a tauto*log*y*

(b) Find the value of n for which $3\left[{}^{2n+4}P_3\right] = 2\left[{}^{n+4}P_4\right]$

QUESTION TWO

(a) Use the Sarrus rule to evaluate $A = \begin{pmatrix} 1 & -2 & 3 \\ 2 & 3 & -1 \\ -3 & 1 & 2 \end{pmatrix}$

(b) Use the inverse matrix method to solve the simultaneous equation
$3x + 2y - z = 4, \quad 2x - y + 2z = 10, \quad x - 3y - 4z = 5$

QUESTION THREE

(a) If the first three terms of the expansion of $(1 + px)^n$ in ascending power of x are $1 + 20x + 160x^2$. Find the values of n and p

(b) By the method of determinant or Crammer, solve the equations
$x + 2y + 4z = 7, 2x + y - 2z = -2, -3x + 5z = 7$

QUESTION FOUR

(a) In how many ways can a committee of 5 be selected from 7 Lecturers and 4 Instructors such that
(i) There is at least one lecturer in the committee (ii) at most two instructors in the committee

(b) How many ways can letters of the word **EXCELLENCE** be permuted provided that the two Ls are
(i) together (ii) apart

QUESTION FIVE

(a) Find the independent of x^4 *in the* exp*ansion of* $\left(x - \frac{1}{x}\right)^8$

(b) Use the binomial theorem, expand $\frac{1}{(2+x)^3}$ in ascending power of x as far as x^3

QUESTION SIX

(a) Given that

$A = \begin{pmatrix} 1 & 2 \\ -2 & 3 \end{pmatrix}, \quad B = \begin{pmatrix} 2 & 1 \\ 2 & 3 \end{pmatrix}$ *and* $C = \begin{pmatrix} -3 & 1 \\ -2 & 0 \end{pmatrix}$, *show that* $A(B + C) = AB + AC$

(b) Find the value of K if $\begin{vmatrix} k-1 & 3k+1 & 2k \\ k-1 & 4k-2 & k+3 \\ 2 & 3k+1 & 3k-3 \end{vmatrix} = 0$

THE FEDERAL POLYTECHNIC EDE
SCHOOL OF APPLIED SCIENCES DEPARTMENT OF STATISTICS FIRST SEMESTER EXAMINATION 2023/2024

COURSE TITLE: Statistics For Computing 1. COURSE CODE: COM 114
CLASS: ND I (Computer Science). TIME ALLOWED: 2hours
INSTRUCTION: Answer all Questions in Section A and any other Three Questions in section B

SECTION A

1.. ..... is a scientific method of decision making. (a) Sample (b) survey (c) Statistics (d) statistic

2. ..... and..... Are the two branches of Statistics? (a) Mean and median (b) descriptive and inferential (c) census and survey (d) primary and secondary

3. ..... is generally refers to a raw materials that are generated through a sequence of observation or examination made on a set of objects. (a) Sample (b) data (c) raw fact (d) statistics

4..... ....can be define as a survey involving complete enumeration of all units contained in a given population.(a) sample (b) survey (c) census (d) population

5. The likelihood chance of occurrences of an event is ... (a) permutation (b) combination (c) set theory (d) probability

6.. .....Is a collection of well-defined objects (a) sampling (b) set (c) elements (d) intersection

7..... is defined as a part of another set (a) element (b) Event (c) set (d) subset

8. The characterization, collection and presentation of particular set of data in organised way is classified as ---------- (a) descriptive statistics (b) education statistics (c) business statistics (d) continuous statistics.

9. The measurement scale which allows the determination of differences in intervals is classified as ---------- (a) interval scale (b) flow measuring scale (c) validity scale (d) nominal scale.

10. If A= { 2,4.6,8} and B = {1,2,3,5} are any two sets then AUB of the two sets is given as: (a) AUB = {2,3,5.8} (b) AUB = {1,2,3,4,5,6,8} (c) {2,3,4,5,6,7,8} (d) { 1,2,3,4,5,6,7,8}

The following data show the number of hours distribution of 35 workers of opec company.

hours	No of employees
16 -20	3
21- 25	5
26- 30	8
31- 35	12
36- 40	5
41 -45	2

11. Refers to the exhibit, the class width for the distribution is ------ (a)9 (b)10 (c) 11 (d)5.

12. The class midpoint of students working 19 hours is --- (a) 20 (b)18 (c)17 (d)14

13. The cumulative frequency for the class of 26-30 is ---------- (a)16 (b)5 (c)17 (d)8

14. The relative frequency of students working 21-29 hours is ---- (a)0.25 (b)0.13 (c) 0.12 (d) 0.14

15. The class boundary of workers working 36- 40 is --------- (a) 35.5- 40.0 (b) 35.5- 40.5 (c) 40.5 -45.5 (d) 30.5 – 40.5

SECTION B

QUESTION ONE

(a) (i) Define Statistics and list two broad areas of statistics

(ii) State four (4) uses of Statistics

(b) (i) Mention any five (5) methods of collecting Statistical data
(ii) From any two (2)–methods mentioned in question (bi) above give two advantages and two disadvantages of collecting statistical data

QUESTION TWO

Differentiate between the following terms

(a) (i) Qualitative and Quantitative data (ii)Population and Sample
(iii)Probabilistic and Non probabilistic Techniques
(iv)Location and Time Classification of data

(b) If $\mathcal{E}$ ={ 1,2,3,4,5}, A ={1,3} and B={ 3,4} find: (i) A' (ii) B' (iii) A∩B (iv)AUB (v) (A∩B)' (vi) (AUB)'

QUESTION THREE

27	84	63	47	19	38	39	76
13	45	61	39	23	22	41	22
92	18	14	67	37	61	19	72
76	80	57	38	53	29	40	27
38	73	86	42	58	91	84	65

The data above shows the marks of 40 students in the COM 114 examination

(a) Construct the frequency distribution table and use it to obtain the following
(i) Cumulative frequency (ii) Class Boundaries (iii) Relative Frequency
(iv) Class Mark
Hint: take classes from 11-20, 21-30.....

(b) The data given in question three (3) above, construct histogram and superimpose the frequency polygon

QUESTION FOUR

(a) Briefly explain these terms in relation to probability.
i. Probability ii. Mutually exclusive event iii Independent event.

(b). The probability that a subcriber to two Nigerian dalies (oncord and Sketch) picked at randon subscribes to concord only is 0.4 and sketch only is 0.1. If the probability that he subsrcribes to both concord and sketch is 0.2. find the probability that,

(i) He subsrcribes to concord or sketch
(ii) He neither subscribes to concord nor sketch
(iii) If 200 subscribers subscribes to either concord or sketch or both. How many subscribers are expected to subscribe to concord?

QUESTION THREE

(a) List and explain the basic step involved in problem solving. **(6marks)**

(b) For the following expression, write the Basic statement to solve these expressions and show the order of precedence. (i) $P = v^2 - u^2 + t^2$ (ii) P= $\frac{x^2}{y^2} - k(r-t)$ (iii) $P = \frac{(x+y)^2}{z}$ (iv) $P = \left(\frac{x^2}{y+z}\right)^2$ **(4marks)**

QUESTION FOUR

Write short note on the following Visual Basic objects:

(i) Combo box

(ii) List box

(iii)Check box

(iv)Text box

(v) Command box **(10marks).**

QUESTION FIVE

a) Design a form and write a **Visual Basic** sample code to calculate Area of a triangle, given that Area=½bh. **(3.5marks)**

b) Design a form and write a **Visual Basic** sample code for a simple calculator machine, the machine must be able perform the following operations: **Addition, Subtraction, Multiplication and Division.** **(5marks)**

c) Itemize the three (3) mode operate by Visual Basic programming language. **(1.5 marks)**

QUESTION SIX

(a) Write a QBASIC program that will generate and print the sum of the series. Given that $1 + {}^1/_3 + {}^1/_5 + {}^1/_7 + \ldots\ldots\ldots\ldots {}^1/_{99}$. **(5marks)**

(b) Highlight the process in developing an application program in Visual Basic programs. **(2.5marks)**

(c) Highlight the various steps to start or loading **QBASIC program**. **(2.5marks)**

FEDERAL POLYTECHNIC EDE
OSUN STATE

SCHOOL OF APPLIED SCIENCES
Computer Science Department

COM113 – Introduction to Programming Concepts Using Q-Basic/Visual Basic

Level: Comp. Sci ND I FT & DPT

First Semester Examination
2023/2024 Academic Session
May 2024

Instruction
Time Allowed: 2½ Hours

Answer ALL Questions in section A and any FOUR (4) in Section B.

SECTION A: ANSWER ALL QUESTIONS

1. The errors that occur during execution of the program due invalid operation or beyond the control of programmer is refer to _____ (a) Syntax (b) Runtime (c) Busy time (d) Semantic
2. The following are example of numeric function except _____ (a) TAN(x) (b) MID$ (c) SQR(x) (d) COS(x)
3. Another name for looping statements in computer program is known as _____ (a) Branching (b) Selection (c) Repetition (d) All of the above
4. The _____ translator that converts an entire program written in a high-level language and translates it into an executable. (a) Assembler (b) Interpreter (c) Compiler (d) None of the above
5. The properties of a good algorithm is must always terminate after a _____ number of steps. (a) Finite (b) Input (c) MID$ (d) Output
6. The _____ is method of describing computer algorithm using combination of natural language and programming language. (a) Flowchart (b) Pseudo code (c) Algorithm (d) None of the above
7. The statement in BASIC that allows the user to assign a value to a variable. (a) DIM (b) LET (c) DATA (d) MID$
8. The Statement that accept values from DATA statement (a) DIM (b) LET (c) MID$ (d) READ
9. The method of describing computer algorithms using a combination of natural language and programming language is called _____ (a) algorithm (b) pseudo code (c) flowchart (d) program
10. An algorithm is (a) The output of the instruction to computer (b) The required data to be processed (c) A finite sequence (or series) of precise instructions for solving a problem (d) Problem definition
11. The following symbol are used in flowcharting except (a) The terminal symbol (b) The process symbol (c) The input/output symbol (d) The cross symbol
12. The CLS statement (a) Is to instruct the user to enter data (b) Is used for clearing the screen (c) To enter data (d) All of the above
13. The maximum length of a Qbasic file extension is _____. (a) 6 (b) 8 (c) 4 (d) 3
14. The windows which hold the various controls (buttons, text boxes, etc.) which make up application is called _____ (a) Encapsulation (b) Object (c) Class (d) Form
15. The act of joining one or two words together to formed one long word is called _____. (a) Encapsulation (b) Incantation (c) Inheritance (d) Concatenation
16. How many default tools available in Visual Basic. (a) 40 (b) 31 (c) 21 (d) 41
17. The _____Window displays a list of all forms and modules making up your application. (a) Code (b) Properties (c) Form (d) Project
18. A string entered into a text box can be converted to a numeric data by using the function_____ (a) Val(text) (b) Val(string) (c) Val(Alphanumeric) (d) None of the above
19. The window which allow you to enter parameters which define how these controls work is called_____(a) Properties Window (b)Tool box (c) Toolbar (d) None of the above
20. The windows which hold the various controls (buttons, text boxes, etc.) which make up application is called _____(a) Form (b) Encapsulation (c) Object (d) Class

SECTION B: Answer FOUR (4) Questions ONLY

QUESTION ONE

(a) Write a flowchart and Qbasic program to convert Temperature to Fahrenheit to Celsius. Given that: C = 5/9 * (F - 32). **(2.5marks)**

(b) Highlight five (5) application area of high level program. **(2.5marks)**

(c) In tabular form briefly discussed five (5) flowchart tools with symbol name and their function. **(5 marks)**

QUESTION TWO

(a) In tabular form highly five (5) most widely used high level programming language with their purposes. **(2.5marks)**

(b) Write a QBASIC **program** and associated **flowchart** to calculate the Area of triangle, given that area of A = $^1/_2$BH where B is the base and H is the height. **(5marks).**

(c) List any **FIVE** (5) application area of Object Oriented Programming. **(2.5marks)**

THE FEDERAL POLYTECHNIC EDE
SCHOOL OF APPLIED SCIENCES
DEPARMENT OF COMPUTER SCIENCE

COURSE TITLE: Introduction to Computing — COURSE CODE: COM 111
CLASS: ND I FT and ND I DPT Computer Science — TIME: 2hrs
INSTRUCTIONS: Answer all questions in section A and any three (3) from section B

SECTION A

1. The 1st generation of computer were (A) huge in size (B) low (C) heaters (D) small (e) tall
2. Which of this is not a basic computer operation? (A) output information (B) perform arithmetic (C) compare two variable (D) assign a value to a variable
3. _____ is sending and receiving messages over a network. (A) E-mal (B) Facebook (C) Yahoo mail (D) Electronic mail (E) Gmail
4. To join the internet, the computer has to be connected to a (A) internet architecture board (B) internet society (C) none of the mentioned (D) internet service provider
5. 22. _____websites pose a threat to the minds of children and young people by giving an easy access to adult content. (A) pornography (B) fraud (C) virus (D) theft
6. Electronic mail is the transmission and distribution of electronic _____ messages. (A) mail (B) word (C) text (D) net
7. What difference does the 5th generation computer have from other generation computers? (A) Scientific code (B) All of the above (C) Technological advancement (D) None of the above
8. Which of the following device is used in the network layer? (A) Application gateway (B) Switch (C) Router (D) Repeaters
9. Which of the following is not an output device of a computer? (A) keyboard (B) Printer (C) VDU (d) CRT screen
10. 1 Petabyte (PB) = 1024 _____. (A) Zettabytes (ZB) (B) Terabytes (TB) (C) Exabytes (EB (D) Gigabytes (GB)
11. In first generation computers inputs are based on ___ and ____
12. (A) tapes, discs (B) punched cards, paper tapes (C) cards, tapes (D) punched tapes, paper cards
13. The primary memory of a personal computer consists of: (A) ROM only (B) Both ROM and RAM (C) RAM only (D) None of the above.
14. A memory that performs both reads and writes is often called a (A) Bit (B) Byte (C) Rom (D) Ram
15. The arrangement where all data pass through a central computer is known as (A) Ring topology (B) Mesh topology (C) Bus topology (D) Star topology
16. The two main components of the CPU is (A) Control unit and registers (B) Registers and main memory (C) ALU and bus (D) Control unit and ALU
17. A handheld devices that combines computing, telephone/fax, and networking is no as _____ (A) Laptop Computer (B) PDA (C) Palmtop (D) All of the above.
18. The most common used operating system is _____ (A) Unix (B) Linux (C) Microsoft Window OS (D) none of the above
19. The device which helps you to communicate with computer is called (A) Storage device (B) Input device (C) Both b and c (D) Output device
20. Device which are not an integral part of the CPU are called _____ (A) Output Devices (B) Storage Devices (C) Peripherals Devices (D) All of the above
21. Secondary storage devices are also called as ___ devices. (A) temporary memory (B) memory (C) auxiliary memory (D) main memory
22. 10. What is a HUB? (A) Software (B) Computing device (C) Network device (D) Calculating device

23. Ergonomics is study of (A) Human aspect of the environment around the computer system (B) Gradation of various computer professionals (C) Different computer operating systems (D) Cost relationship between computer hardware and software
24. Which of the following is the product of data processing? (A) Software program (B) Hard copy output (C) Data (D) Information
25. What is the name of the program or service that lets you view e-mail messages? (A) Web browser (B) Internet (C) E-mail id (D) E-mail clients
26. What is used for holding program instructions that can't be changed throughout the life of the computer? (A) ROM (B) Register (C) RAM (D) Cache
27. Which storage medium has tracks and sectors? (A) Pen drive (B) Hard disk (C) Primary memory (D) ROM
28. 4GL (4th Generation Language) is (A) Structure language (B) Non Procedural language (C) procedural language (D) All of the above
29. _____ acts like an interface between hardware and the user. (A) Application software (B) System software (C) Utility software(D) All the above
30. _____ is a small devices used to point to and select item on your computer screen. (A) Keyboard (B) Mouse (C) Speaker (D) Printer

SECTION B

1a. Define COLD booting	1mark
1b. Differentiate between DRAM and SRAM	2marks
1c. With the aid of diagram draw the element of computer system	3 marks
1d. Mention three functions of a computer	4 marks
2a. what is translator	1mark
2b. Mention 6 characteristics of computer	3 marks
2c. Explain the followings a. IOTs b. Electronic device c. web browser d. data	4 mark
2d. Differentiate between a power up and power-on self test	2 marks
3a. In a tabular form differentiate between system software and application software	4 marks
3b. With aid of diagram explain the classes of software	3 marks
3c. Define information	1 mark
3d. What are the requirement needed to connect to the internet	2 marks
4a. what are the 4 stages of data processing cycle	2marks
4b. Mention the 3 types of translator	3 marks
4c. Explain computer virus and mention 4 preventive measures	3 marks
4d. Define data transmission	2 marks
5a. Differentiate between firmware and malware	2 marks
5b. Define operating system	2 marks
5c. Mention 3 duties of a computer operators	3 marks
5d. With the aid of diagram explain simplex, half duplex and full duplex transmission mode.	3 marks

THE FEDERAL POLYTECHNIC, EDE
SCHOOL OF APPLIED SCIENCES
DEPARTMENT OF COMPUTER SCIENCE
2017/2018 SECOND SEMESTER EXAMINATION

COURSE TITLE: INTRODUCTION TO SYSTEM ANALYSIS COURSE CODE: COM 125
CLASS: NDI FT & NDI DPT COMP. SCIENCE. Time Allowed: 2hrs 30Mins
Instruction: Answer ALL Questions in Sections A & B and any other THREE Questions from SectionC.

1. The use of passwords to enter a system is an example of--------. A. Detective measures B.Recovery measures C. Preventive measures D. Defective measures.
2. In system development, system design objectives are formulated in---------. A. Feasibility study B. System implementation C. System control D. System analysis.
3. System analysis deals with "what" while system design deals with -------. A. how B. where C. when D. who.
4. A suite of computer application package that can perform multiple functions needed by several users is called-------. A. Integrated package B. Off the shelf package C. Bespoke package D.Application package.
5. Which type of feasibility study appraises the impact of a proposed solution within the organization?. A. Operational B. Social C. Economic D. Technical
6. Education is different from training in that while education promotes understanding, the purpose of training is: A. Awareness B. General appreciation C. Skill building D. in-depth understanding
7. Strategic level information is primarily concerned with what?. A. market dominance B. long term goals C. high margin D. efficiency.
8. Tactical level information is primarily targeted at which one of the following?. A. middle management B. operation C. logistics D. top management.
9. The product of system design is--------. A. system specification B. requirement specification C. physical design D. logical design.
10. Training for end users should be focused on how to handle-------- tasks. A. powerful B. special C. routine D. bulk.
11 System testing is conducted for the development team while acceptance testing is carried out for: A. Managers B. Vendors C. steering committee D. end users.
12 The process of moving data from the existing system into files in the new system is known as: A. File management B. data transfer C. file conversion D. file movement.
13 The conversion method of running operations in the new system concurrently with the old system for a predetermined period is called-------- A. pilot B. phased C. direct D. parallel.
14 The requirement of GLO Nigeria to update account balances within one second is the concern of --------. A. social B. technical C. operational D. economic.
15 Data is transformed into information through--------. A. sorting B. aggregation C. integration D. processing.
16 A company with wide geographical spread and diverse business activities is likely to adopt------- Conversion method. A. parallel B. pilot C. direct D. phased.
17 The distinguishing feature of mechanistic system is-------. A. control B. feedback C predictability D. monitoring.
18 Modifying an operational system to generate additional reports is an example of-------. A. system implementation B. system maintenance C. system design D. system conversion
19 The most important feature of typical system is--------. A. feedback B. control C. objective D. interdependence.
20 Which of the following best connotes the meaning of the word "system"?. A. conformity B. Connections C. consistency. D. competence. **(20mks)**

SECTION B: Fill the space provided with the correct answer.

1. Management Information System produces---------- to management for decision making.
2. A system that interacts with other systems in its environment is called----------.
3. The functional area of any organization that is responsible for the recruitment and welfare of workers is called----------
4. The process of replacing the old system with the new one at a go during system changeover is called----------
5. The widely used method of fact finding during system investigation is----------.
6. Low level managers makes day- to-day-------- decisions to schedule and control specific tasks in an organization.
7. In order to allow users to operate information system correctly and efficiently, the users must be----------.
8. An information system that manipulates knowledge-based data and make associations and inferences is known as----------.
9. The written material consisting of instructions and descriptions of the procedures for operating a system is called----------.
10. The act of determining if a system is inefficient at any point and if the inefficiency is causing a problem is called----------.

(10mks)

SECTION C: Answer any THREE Questions from this section.

1. Write short notes on each of the following types of systems.
   a. Transaction Processing System b. Decision Support System c. Expert System
   d. Self regulation system e. Executive Information System. **(10mks)**

2. a. Who is a manager?. Hence list the **four** basic tasks performed by a typical manager.
   b. The major purpose of system specification is to communicate system requirements to the users of the system. You are required to:
   i Define system specification
   ii Enumerate the users of system specification
   iii State any **four** uses of feasibility study report. **(10mks)**

3. a. The Managing Director of an organization might want to develop a new system for some reasons. You are required to:
   i Define system development
   ii Enumerate any **five** reasons for developing Information System.
   b.List the activities involved in the implementation of a system.
   c.State any **two** sources of request for system development. **(10mks)**

4. a. What is the difference between **off-the-shelf** and **bespoke** packages.
   b. State **four** advantages and **four** disadvantages of using off-the-shelf packages. **(10mks)**

5. a. State any **three** purposes of system maintenance.
   b. Enumerate any **five** reasons for appraisal during the development of a system.
   c. List any **two** advantages of parallel changeover over other methods of conversion. **(10mks)**

THE FEDERAL POLYTECHNIC, EDE

SCHOOL OF APPLIED SCIENCES

DEPARMENT OF COMPUTER SCIENCE

SECOND SEMESTER EXAMINATION 2021/2022 SESSION

COURSE TITLE: INTRODUCTION TO INTERNET

CLASS: ND 1 FT, ND 1 DPT AND ND1 RPT COMPUTER SCIENCE

COURSE CODE: COM 122

INSTRUCTION: ANSWER ALL QUESTIONS IN SECTION A AND ANSWER ANY THREE (3) QUESTIONS FROM SECTION B

TIME: 2HRS

SECTION A

_____1_____ represent the heart of the internet protocol. _____2_____refers to the way people are hooked up to the internet and which may dial up telephone lines always on broadband connections and wireless devices. Web browser is software that enables you to _____3____ and_____3_____ the various part of the web. It is ___4_____ network connecting millions of computer. _____5____ is irrelevant messages sent over the internet. ___ 6_____ is use to reduce the amount of time it takes to send data and to cut down on the amount of error in the signal. User datagram protocol is a substitute communication protocol implemented primarily for creating loss-tolerating and ___7_____ linking between different applications. ___8_____ is a person who conducts some form of illegal activity using computers or other digital technology. _____9____ is a important aspect of any system. ____10_____ is devices that transmit to and receive signals from a satellite. _____11_____ divides any message into series of packets that are sent from source to destination and there it gets reassembled at the destination. Ethernet uses an access method called_____12_____. Token ring protocol was developed by IBM in the mid ____13____. A bridge is a device that allow one _____14_____ medium to exchange frames with another _____15_____ is a network protocol that transmits data at a speed of 155 Mbps and higher. _____16_____ is the time elapsed between enquiry and response. ____17_____is a centralized device that connects multiple devices in a single LAN network. Routers are multipoint devices that can connect dissimilar networks running at different ____18_____ and using different protocols. The layout pattern of the interconnections between computers in a network is called_____19_____. Smile telecommunication operates in _____20_____Mbps. _____21_____ is a string of characters that points to a specific piece of information anywhere on the web. ARPA stands for _____22_____. In bus topology there is a main cable and all the devices are connected to this main cable through _____23_____. _____24_____ establishes the connection using the phone lines which carry digital signals instead of analog signals. SNMP stands for _____25_____. In _____26_____ topology each device is connected to every other device on the network through a dedicated point to point line. _____27_____ is simply a location on the internet. RJ 45 stands for _____28_____. Data transmission is the conveying of data from functional unit to one or more additional functional units through the transmission of signals by wire, radio, light

beam, or any other _____29_____. Domain name components are separated by period called_____.

SECTION B

1a. List the tools for networking a cable

1b. Explain the followings:

I. Intranet
II. Surf
III. link
IV. ISP
V. Webpage

1c. Mention the 7 layers of OSI model.

2a. Fiber-optics use---------- to transmit data

2b. List six benefits of intranets

2c List and explain basic communication model.

2d. URL stands for what?

3a. With the aid of diagram explain star topology

3b. Define communication model.

3c. List and explain the types of transmission modes we have

3d. Mention the three properties of good network.

4a. Crimping tool is used for what?

4b. What is the name of the Chief Executive Officer of smile telecommunication.

4c. Mention six ways to protect yourself against cybercrime.

4d. Explain peer-to-peer

THE FEDERAL POLYTECHNIC
EDE, OSUN STATE

Course Code: COM 121 Course Title: Introduction to Java Programming Language
Department: Computer Science Level: ND I, ND I DPT & ND PT YR I

Second Semester Examination 2017/2018 Academic Session

Attempt all Questions in Section A and any Three (3) in Section B. Time allowed 2 ¼ Hours

Section A – Attempt ALL Questions

1. The default value of a static integer variable of a class in Java is, (a) 0 (b) 1 (c) Garbage value (d) Null (e) -1.
2. Multiple inheritance means, (a) one class inheriting from more super classes (b) more classes inheriting from one super class (c) more classes inheriting from more super classes (d) None of the above (e) (a) and (b) above.
3. Which statement is not true in java language? (a) A public member of a class can be accessed in all the packages. (b) A private member of a class cannot be accessed by the methods of the same class. (c) A private member of a class cannot be accessed from its derived class. (d) A protected member of a class can be accessed from its derived class. (e) None of the above.
4. Among these expressions, which is(are) of type String? (a) "0" (b) "ab" + "cd" (c) '0' (d) Both (A) and (B) above (e) (A), (B) and (C) above.
5. What is the type and value of the following expression? (Notice the integer division) -4 + 1/2 + 2*-3 + 5.0 (a) int -5 (b) double -4.5 (c) int -4 (d) double -5.0 (e) None of the above.
6. What is printed by the following statement? System.out.print("Hello,\nworld!");
   (a) Hello, \nworld!
   (b) Hello,
   world!
   (c)
   (d) "Hello, \nworld!" (e) None of the above.
7. Which of the following variable declaration would NOT compile in a java program? (a) int var; (b) int VAR; (c) int var1; (d) int var_1; (e) int 1_var;.
8. A constructor (a) Must have the same name as the class it is declared within. (b) Is used to create objects. (c) May be declared private (d) Both (A) and (B) above (e) (a), (b) and (c) above.
9. What is byte code in the context of Java? (a) The type of code generated by a Java compiler. (b) The type of code generated by a Java Virtual Machine. (c) It is another name for a Java source file. (d) It is the code written within the instance methods of a class. (e) It is another name for comments written within a program.
10. What is garbage collection in the context of Java? (a) The operating system periodically deletes all the java files available on the system. (b) Any package imported in a program and not used is automatically deleted. (c) When all references to an object are gone, the memory used by the object is automatically reclaimed. (d) The JVM checks the output of any Java program and deletes anything that doesn't make sense. (e) Janitors working for Sun Micro Systems are required to throw away any Microsoft documentation found in the employees' offices.
11. You read the following statement in a Java program that compiles and executes. submarine.dive(depth); What can you say for sure? (a) depth must be an int (b) dive must be a method. (c) dive must be the name of an instance field. (d) submarine must be the name of a class (e) submarine must be a method.
12. The java run time system automatically calls this method while garbage collection. (a) finalizer() (b) finalize() (c) finally() (d) finalized() (e) none of the above.
13. The correct order of the declarations in a Java program is, (a) Package declaration, import statement, class declaration (b) Import statement, package declaration, class declaration (c) Import statement, class declaration, package declaration (d) Class declaration, import statement, package declaration (e) Class declaration, package declaration, import statement.
14. An overloaded method consists of, (a) The same method name with different types of parameters (b) The same method name with different number of parameters (c) The same method name and same

number and type of parameters with different return type (d) Both (a) and (b) above (e) (a), (b) and (c) above.

15. In java, objects are passed as (a) Copy of that object (b) Method called call by value (c) Memory address (d) Constructor (e) Default constructor.
16. Which of the following is not a component of Java Integrated Development Environment (IDE)? (a) Net Beans (b) Borland's Jbuilder (c) Symantec's Visual Café (d) Microsoft Visual Fox Pro (e) Microsoft Visual J++.
17. Identify, from among the following, the incorrect variable name(s). (a) _theButton (b) $reallyBigNumber (c) 2ndName (d) CurrentWeatherStateofplanet (e) my2ndFont.
18. Use the following declaration and initialization to evaluate the Java expressions
    int a = 2, b = 3, c = 4, d = 5;
    float k = 4.3f;
    System.out.println(– -b * a + c *d – -);
    (a) 21 (b) 24 (c) 28 (d) 26 (e) 22.
19. Use the following declaration and initialization to evaluate the Java expressions
    int a = 2, b = 3, c = 4, d = 5;
    float k = 4.3f;
    System.out.println(a++);
    (a) 3 (b) 2 (c) 4 (d) 10 (e) Synatax error.
20. Use the following declaration and initialization to evaluate the Java expressions
    int a = 2, b = 3, c = 4, d = 5;
    float k = 4.3f;
    System.out.println (c=c++);
    (a) 2 (b) 4 (c) 5 (d) 8 (e) Syntax error.
21. The blank space in the following sentence has to be correctly filled : Members of a class specified as ..... are accessible only to methods of that class. (a) Protected (b) Final (c) Public (d)Private (e) Static.
22. Java compiler javac translates Java source code into ..... (a) Assembler language (b) Byte code (c) Bit code (d) Machine code (e) Platform dependent code.
23. ..... are used to document a program and improve its readability. (a) System cells (b) Keywords (c) Comments (d) Control structures (e) Blocks.
24. In Java, a character constant's value is its integer value in the .....character set. (a)EBCDIC (b) Unicode (c) ASCII (d) Binary (e) BCD.
25. In Java, a try block should immediately be followed by one or more ..... blocks. (a)Throw (b) Run (c) Exit (d) Catch (e) Error.
26. In object-oriented programming, the process by which one object acquires the properties of another object is called (a) Encapsulation (b) Polymorphism (c) Overloading (d) Inheritance (e) Overriding.
27. In a class definition, the special method provided to be called to create an instance of that class is known as a/an (a) Interpreter (b) Destructor (c) Constructor (d) Object (e) Compiler.
28. Identify, from among the following, the incorrect descriptions related to Java : (a) Java Virtual Machine translates byte code into its own system's machine language and runs the resulting machine code (b) The arithmetic operations *, /, %, + and – have the same level of precedence (c) Comments do not cause any action to be performed during the program execution (d) All variables must be given a type when they are declared (e) Java variable names are case-sensitive.
29. Consider the following data types in Java : I. Int II. Boolean III. Double IV. String V. Array. Which of them are simple data types? (a) Both (I) and (II) above (b) (I), (II), (III) and (IV) above (c) (I), (II) and (III) above (d) (II) and (III) above (e) All (I), (II), (III), (IV) and (V) above.
30. For what values respectively of the variables gender and age would the Java expression gender == 1 && age >= 65 become true? (a) gender = 1, age = 60 (b) gender = 1, age = 50 (c) gender = 1, age = 65 (d) gender = 0, age = 70 (e) gender = 0, age = 55.

SECTION B: ANSWER ANY THREE (3) QUESTIONS ONLY

QUESTION ONE

a. Write Java statement to Declare variable c, thisIsAvariable, q76354 and number to be type int *-2 mks*

b. Write Java statement to Print the message "This is a Java program" in two line in the command window. *-2 mks*

c. One of the primitive types in Java is Boolean. What is the Boolean type? Where are Boolean values used? What are its possible values? *-3 mks*

d. Write a program to find the minimum and maximum value of an array. *-3 mks*

QUESTION TWO

a. Write a program to find the sum of even numbers from 1 to 59. *-3 mks*

b. How do we compile and run a Java program? *-2 mks*

c. Give an example for each of the primitive data type and what are the default value for each *-5 mks*

QUESTION THREE

a. Result % 7 gives you what'?, if Result=10 *-2 mks*

b. Give the meaning of each of the following Java operators: (i) ++ (ii) && (iii) != *-2 mks*

c. Explain what is meant by an assignment statement, and give an example. *-2 mks*

d. Write a program in Java to display the multiplication table of given integer *-4 mks*

QUESTION FOUR

a. In Java, explain different kinds of variables *-3 mks*

b. Write a program in java to display n terms of natural numbers and their sum. *-4 mks*

c. Briefly discuss type of java comment statements *-3 mks*

QUESTION FIVE

a. What is the difference between constructors and other methods? *-3 mks*

b. Method declarations have six components, list them *-3 mks*

c. Field declarations are composed of three components, list explain them with illustration *4 mks*

QUESTION SIX

a. Describe the following fundamental concept of Object-Oriented-Programming (OOP)

i. Polymorphism ii. Inheritance iii. Encapsulation iv. Classes v. Objects *-5 mks*

b. Write a Java Programming to accept any 10 random numbers from the keyboard and perform a Bubble-Sort operation *-5 mks*

QUESTION FOUR

(a) For the following expression, write the basic statement to solve these expressions and show the order of precedence.

(i) $P = v^2 - u^2 + t^2$ (ii) $P = \frac{x^2}{y^2} - k(r - t)$ (iii) $P = \frac{(x+y)^2}{z}$

(iv) $P = \left(\frac{x^2}{y+z}\right)^2$ **(4 marks)**

(b) What are the rules that guiding the QBASIC statements **(3 marks)**

(c) What are the basic step involved in solving a particular problem? **(3 marks)**

QUESTION FIVE

(a) List the attributes of Object Oriented Programming Language **(2 marks)**

(b) List any 10 toolboxes in **Visual Basic** and explain only 5. **(5 marks)**

(c) Draw a login form with username, password and a submit and indicate the name of the toolbox used. **(3 marks)**

QUESTION SIX

(a) What are the qualities of a good program? **(3 marks)**

(b) What are the characteristics of an Algorithm **(3 marks)**

(c) Write a program to print the sum of the following series; 2, 5, 8, 11, 14, 17, 20 **(4 marks)**

FEDERAL POLYTECHNIC EDE
OSUN STATE

SCHOOL OF APPLIED SCIENCES
Computer Science Department

COM 113 - Introduction to Programming Concepts Using Q-Basic/Visual Basic

Level: Comp. Sc ND 1, ND 1 DPT & ND PT YR1

First Semester Examination
2020/2021 Academic Session
November 2021

Instruction
Time Allowed: 2½ Hours

Answer ALL Questions in section A and any FOUR (4) in section B.

SECTION A: ANSWER ALL QUESTIONS

1. The statement in BASIC that allows the user to assign a value to a variable. (a) DIM (b) DATA (c) LET (d) MID$
2. The Statement that accept values from DATA statement (a) DIM (b) READ (c) LET (d) MID$
3. The method of describing computer algorithms using a combination of natural language and programming language is called _____ (a) algorithm (b) pseudo code (c) flowchart (d) program
4. The translator use to translate programs writing in QBASIC to machine language equivalent is called ____ (a) compiler (b) assembler (c) interpreter (d) translator
5. An algorithm is (a) The output of the instruction to computer (b) The required data to be processed (c) A finite sequence (or series) of precise instructions for solving a problem (d) Problem definition
6. The following symbol are used in flowcharting except (a) The terminal symbol (b)The process symbol (c) The input/output symbol (d) The cross symbol
7. The CLS statement (a) Is to instruct the user to enter data (b) To enter data (c) Is used for clearing the screen (d) All of the above
8. BASIC is defined as _____ (a) Beginner's All-purpose Symbolic Instruction Code (b) Beginner's Arithmetic System Instruction Code (c) Beginner's Arithmetic System Instruction Computer (d) Beginner's All-purpose System Instruction Code (e) All of the above.
9. What is the maximum length of a Qbasic file extension? (a) 6 (b) 3 (c) 8 (d) 4
10. The line number in BASIC program language is meant for_____ (a) Identification (b) Calculation (c) Continuation (d) Termination (e) None of the above
11. READ statement cannot be used without a _____ statement. (a) DIM (b) DATA (c) LET (d) MID$
12. DATA statement can occur anywhere in the program, but must be before the _____ statement. (a) DIM (b) LET (c) END (d) MID$
13. The original Qbasic code is known as _____ (a) Object code (b) source code (c) object program (d) all of the above
14. Assembler and compiler are example of _____ (a) Hardware (b) assembler (c) translator (d) application software
15. _____ are the words that have pre-defined meanings in a given programming language. (a) program (b) keyword (c) variable (d) constant
16. The process by which object of one class acquire the properties of objects of another class is called _____ (a) Polymorphism (b) Inheritance(c) Encapsulation (d) Class
17. A library of controls which you can place on your application forms is called _____. (a) Properties window (b) All of the above (c) Toolbox (d) Properties window

The list of all the forms which make up VB project

18. The list of all the forms which make up your VB project can be located at _____. (a)Tool box (b) Project window (c) Toolbar (d) None of the above
19. The window which allow you to enter parameters which define how these controls work is called_____ (a)Tool box (b) Toolbar (c) None of the above (d) Properties Window
20. The windows which hold the various controls (buttons, text boxes, etc.) which make up application is called _____ (a) Encapsulation (b) Object (c) Form (d) Class

SECTION B: Answer THREE (4) Questions ONLY

QUESTION ONE

a. Highlight four (4) with specific example most widely used high level language. **(2marks)**

b. Write a QBASIC **program** and associated **flowchart** to calculate the Area of triangle, given that area of A = $^1/_2$BH where B is the base and H is the height. **(4marks).**

c. Write a QBASIC program that will generate and print the sum of the series. Given that $1 + {}^1/_3 + {}^1/_5 + {}^1/_7 + \ldots\ldots\ldots\ldots {}^1/_{99}$. **(4marks)**

QUESTION TWO

(a) Design a form and write a **Visual Basic** sample code to calculate Area of a triangle, given that Area=½bh. **(3.5 mark)**

(b) Design a form and write a **Visual Basic** sample code for a simple calculator machine, the machine must be able perform the following operations: **Addition, Subtraction, Multiplication and Division.** **(5 mark)**

(c) List three (3) modes at which visual basic operates. **(1.5 mark)**

QUESTION THREE

a. Highlight the at least **Four (4)** characteristic of good algorithm. **(2 marks)**

b. Define the term "**KEYWORD**" and give at least five (4) examples of keyword available in QBASIC program. **(3 marks)**

c. List any **FIVE** (5) application area of object oriented programming. **(2.5 marks)**

d. Highlight the various steps to start or loading QBASIC program. **(2.5 marks)**

THE FEDERAL POLYTECHNIC, EDE, OSUN STATE

SCHOOL OF APPLIED SCIENCES

DEPARTMENT OF COMPUTER SCIENCE

SECOND SEMESTER EXAMINATION 2020/2021 ACADEMIC SESSION

COURSE CODE: COM 21 **TITLE: INTRODUCTION TO C LANGUAGE**

CLASS: ND I (FT, DPT & RPT) **TIME: 2 ½ Hrs**

SECTION A: Answer all questions

1. The description of a C language is usually split into the two components of syntax and _____.(a) Translator (b) Semantics (c) Interpreter (d) None of the above
2. The _____ is written in an acceptable computer programming language. (a) Object Code (b) Intermediate Code (c) Source Code (d) Executable Code
3. The total number of keyword in C language is _____ (a) 40 (b) 42 (c) 32 (d) 52
4. In C language preprocessor directive always begins with a _____ symbol. (a) & (b) # (c) $ (d) @
5. The following are example of C language token except _____ (a) Keyword (b) Integer (c) Special character (d) Operator
6. In C language the escape character that causes the cursor moves to the next tab stop is _____ (a) \r (b) \n (c) \t (d) \r
7. The following are valid hexadecimal constant except (a) 0x (b) x07d (c) 0xAB (d) 0X3A7
8. The operating system that virtually all the application system written by C is _____ (a) Linux OS (b) Mac OS (c) Unix OS (d) All of the above
9. C programming language was formalized by the American National Standard Institute (ANSI) in year_____. (a) 1970 (b) 1972 (c) 1987 (d) 1988
10. The section of C program that consists of a set of comment lines giving the name of the program, author and other details is know as _____. (a) Link section (b) documentation section (c) Declaration section (d) main function section
11. The following are valid octal constant in C language except (a) 321 (b) 034 (c) 0721 (d) 0
12. The section that provides instructions to the compiler to connect functions from the system library such as using the #include directive is called _____. (a) Declaration section (b) documentation section (c) main function section (d) Link section
13. The following are invalid C language identifier except (a) 1BA9 (b)Total+ (c) Void (d) Lorry
14. The section specify all symbolic constants such using the #define directive is known as_____. (a) Link section (b) Definition section (c) documentation section (d) main function section
15. In C language the in-built function to produces an output on the screen is _____. (a) Scanf() (b) Put() (c) Printf (d) Get()
16. The mantissa and the exponent is separated with _____ letter in C language. (a) E (b) A (c) F (d) F
17. The basic building block used in writing or constructing C language is called _____ (a) Identifier (b) Token (c) Keyword (d) Sting
18. In C language the general terminology used for variable name, function and array is called _____ (a) Keyword (b) Token (c) Identifier (d) Sting
19. The following are valid C language identifier except (a) _BA9 (b)Total (c) Total_p (d) Float
20. In C language in in-built function to gets data from the keyboard is _____ (a) Printf (b) Scanf() (c) Put() (d) Get()

SECTION B Answer question One (1) and any other Three (3)

Question One

(a) Define the term Identifier and mention four (4) rules naming C language identifier. **(1.5mark)**

(b) State any three (3) output of compilation result in C language. **(1.5mark)**

(c) Write a C program to generate odd number between 1 to 10. **(1.5mark)**

(d) Explain the term Keyword and mention ten (10) keywords in C language. **(2mark)**

(e) Write C program to find the root quadratic equation. Given that

$$\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Hint: using integer value for both input and output value. **(3.5mark)**

Question Two

Write short note on the following and give at least three (3) examples each:

(a) String constant

(b) Character Constant

(c) Integer Constant

(d) Real Constant

Question Three

(a) State any four (4) output of compilation result in C language. **(2mark)**

(b) Write C program that will generate natural number between 1 to 100 **(3mark)**

(c) Modify the program in (b) display the SUM AND AVERAGE of the natural between 1 to 100. **(4mark)**

Question Four

(a) Explain the term C program Token **(2mark)**

(b) List the six (6) C token with two example each **(3mark)**

(c) Write a C program to calculate area of triangle, the program should accept the input from user through the keyboard. Given that Area = ½ BH, note that base and height assume to be integer value. **(5mark)**

Question Five

(a) Write a C program to add two numbers, your program should be able to display the two numbers and addition of two in two line break. **(4mark)**

(b) List and explain the various sections in C program basic structure. **(6mark)**

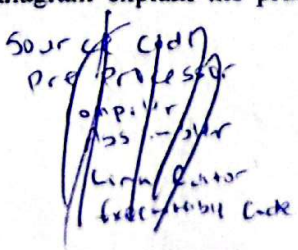
Question Six

(a) Study the program below and state the output of the program.

```
# include <stdio.h>
int main()
{
int i=10;
while (i > 0)
{
Printf ("%d", i);
i--;
}
}
```

(5mark)

(b) With the aid of well labeled diagram explain the process of compiling and running of C language. **(5mark)**



THE FEDERAL POLYTECHNIC EDE OSUN STATE NIGERIA
SCHOOL OF APPLIED SCIENCES

SECOND SEMESTER EXAMINATION / 2020/2021 SESSION
DEPARTMENT: COMPUTER SCIENCE ND I FT AND DPT

COURSE TITTLE: PC UPGRADING AND MAINTENANCE COURSE CODE: COM 126 TIME: 2Hours DATE: 04/04/2022

SECTION B FIVE QUESTIONS ANSWER THREE (4)

1a State the six (6) simple guidelines when you want to troubleshoot hardware problem. (6marks)

b What is (i) power surges? (2marks)

(ii) Power fluctuation? (3marks)

c. State briefly the function of 5 maintenance tools (4marks)

2a Updating of Software can be done in variety of ways, list (4marks)

b Highlights and Explain the reason and benefits you should expect when upgrading hardware device. (5mark)

c What is computer software, give types of software and explain two. (6marks)

3a Highlights (10) ten basic maintenance tools (5marks)

b State the relationship between hardware and software (10marks)

4a List and briefly discuss the two types of booting (3marks)

bi What are the factor to be consider before replacing a mother board (5marks)

bii. The best ways to prevent virus infections are: (2marks)

c Enumerate five component on the motherboard. (5marks

5a State TWO importance of hard disk partitioning (5mark)

b Enumerate five component on the motherboard. (5marks)

c Differentiate between **PC upgrade** and **PC maintain ace** (5marks)

6a. List the steps involved in removing a motherboard from and computer (5marks)

b. what are the process required to disassemble the Pc (5marks)

c. Explain the work of Disk Defragmenter in computer system (5marks)

SECTION B Answer question One (1) and any other Three (3)

Question One

(a) Define the term Identifier and mention four (4) rules naming C language identifier. **(1.5mark)**

(b) State any three (3) output of compilation result in C language. **(1.5mark)**

(c) Write a C program to generate odd number between 1 to 10. **(1.5mark)**

(d) Explain the term Keyword and mention ten (10) keywords in C language. **(2mark)**

(e) Write C program to find the root quadratic equation. Given that

$$\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Hint: using integer value for both input and output value. **(3.5mark)**

Question Two

Write short note on the following and give at least three (3) examples each:

(a) String constant

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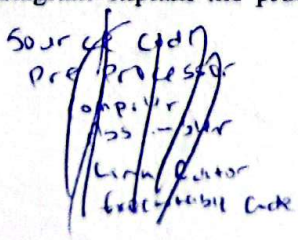

THE FEDERAL POLYTECHNIC EDE OSUN STATE NIGERIA
SCHOOL OF APPLIED SCIENCES

SECOND SEMESTER EXAMINATION / 2020/2021 SESSION
DEPARTMENT: COMPUTER SCIENCE ND I FT AND DPT

COURSE TITTLE: PC UPGRADING AND MAINTENANCE COURSE CODE: COM 126 TIME: 2Hours DATE: 04/04/2022

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c. State briefly the function of 5 maintenance tools (4marks)

2a Updating of Software can be done in variety of ways, list (4marks)

b Highlights and Explain the reason and benefits you should expect when upgrading hardware device. (5mark)

c What is computer software, give types of software and explain two. (6marks)

3a Highlights (10) ten basic maintenance tools (5marks)

b State the relationship between hardware and software (10marks)

4a List and briefly discuss the two types of booting (3marks)

bi What are the factor to be consider before replacing a mother board (5marks)

bii. The best ways to prevent virus infections are: (2marks)

c Enumerate five component on the motherboard. (5marks

5a State TWO importance of hard disk partitioning (5mark)

b Enumerate five component on the motherboard. (5marks)

c Differentiate between **PC upgrade** and **PC maintain ace** (5marks)

6a. List the steps involved in removing a motherboard from and computer (5marks)

b. what are the process required to disassemble the Pc (5marks)

c. Explain the work of Disk Defragmenter in computer system (5marks)

THE FEDERAL POLYTECHNIC EDE

SCHOOL OF APPLIED SCIENCES
COMPUTER SCIENCE DEPARTMENT
Second Semester 2020/2021 Examination

Class: ND I FT, DPT & RPT Comp. Sc.
Title: Data Structure and Algorithm

Course Code: COM 124
Duration: 2 ¼ Hrs.

Instruction: Attempt all questions from section A,B and any two from section C

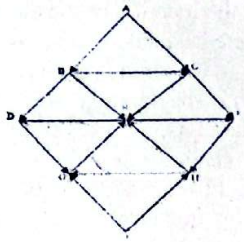
Section A

1. Which of the following data structure is not linear data structure? (a) Arrays (b) Linked lists (c) Tree (d) Stack
2. Finding the location of the element with a given value is: (a)Traversal (b)Search (c)Sort (d)None of above
3. Arrays are best data structures (a)for relatively permanent collections of data (b) for the size of the structure and the data in the structure are constantly changing (c)for both of above situation (d)for none of above situation
4. Each array declaration need not give, implicitly or explicitly, the information about (a) the name of array (b)the data type of array (c)the first data from the set to be stored (d) the index set of the array
5. The elements of an array are stored successively in memory cells because (a) by this way computer can keep track only the address of the first element and the addresses of other elements can be calculated (b)the architecture of computer memory does not allow arrays to store other than serially (c) both of above (d) none of above
6. The following are data types excepts (a) Numeric Integer (b) Numerical real (c) Numeric real (d)Boolean/Logical
7. The following are linear data structure excepts _____(a) queue (b) List (d) Array (d) Graph
8. A graph is generally display as a figure in which the vertices are represented by circles and the edges by_____(a) Figure (b) Lines (c) Labels (d) Number
9. If all the edges in a graph are undirected, then the graph is an (a) Complete graph (b) Incomplete graph (c) Directed graph (d) Undirected graph
10. Following are applications of graph excepts _____ (a)Molecular structure of mechanical compounds (b) Representation of airline routes (c) Communication network (d) Genetic Studies
11. One difference between a queue and a stack is: (a) Queues require linked lists, but stacks do not. (b) Stacks require linked lists, but queues do not (c) Queues use two ends of the structure; stacks use only one. (d) Stacks use two ends of the structure, queues use only one.
12. If the characters 'D', 'C', 'B', 'A' are placed in a queue (in that order), and then removed one at a time, in what order will they be removed? (a) ABCD (b) ABDC (c) DCAB (d) DCBA
13. Suppose we have a circular array implementation of the queue class, with ten items in the queue stored at data[2] through data[11]. The current capacity is 12. Where does the insert method place the new entry in the array? (a) data[1] (b) data[0] (c) data[11] (d) data[12]
14. To simulate people waiting in a line, which data structure would you use? (a) Vector (b) Queue (c) Stack (d) List
15. Select the one true statement. (a)Every binary tree is either complete or full. (b) Every complete binary tree is also a full binary tree. (c) Every full binary tree is also a complete binary tree. (d) No binary tree is both complete and full.
16. Suppose T is a binary tree with 14 nodes. What is the minimum possible depth of T? (a) 0 (b)3 (c) 4 (d) 5
17. The depth of a node is the number of edges from the root to the _____ (a) height (b) leave (c) node (d) depth
18. A linear list which allows insertion and deletion of an element at one end only is called (a)Array (b) Stack (c) Tree (d) Graph
19. Following are application of stack excepts (a) servicing hardware interrupt (b) recursion (c) operating system (d) evaluation of expression
20. Following are the disadvantages of array excepts (a) its size is fixed (d) it is difficult to add or remove element (c) it cannot be dynamically resized in most language (d) the size is always bigger than the computer memory.
21. _____in general refers to various methods of arranging or ordering things based on criteria's (numerical, chronological, alphabetical, hierarchical etc.) (a) Searching (b) Ordering (c) Sorting (d)Traversal
22. Following are basic operations on single List linked list excepts (a) Creation (b) Insertion (c) Traversal (d) Deletion.
23. The depth of a node in a tree is the number of nodes along the path from the _____to that node (a) Leaf (b) Sibling (c) Root (d) Sub tree

24. A tree that can have more than two children is called _____(a) Sub tree (c)Multiway tree (c)Multi tree (d) Large tree
25. What does 'stack underflow' refer to? (a) Accessing item from an undefined stack (b) Adding items to a full stack (c) Removing items from an empty stack (d) Index out of bounds exception
26. A graph G is said to be weighted graph if every edge and/or vertices in the graph is assigned with _____ (a) weight or value (b) Node or Value (c) Edge or Vertices (d) Weight or Edge
27. Following are sorting techniques excepts (a) Internal Sort (b) Bubble sort (c) Quick Sort (d) Selection Sort
28. Most popular application of stack is _____ (a) Computer Network (b) Arithmetic Expression (c)Application Package (d) Microsoft word
29. The storage structure representation in auxiliary memory is called (a)Data Structure (b) File Structure (c) Computer File (d) File Printing
30. Following are operations on data structure excepts (a) Create (b) Searching (d) Loading (d) Destroy

Section B

(a) What do you understand by a path in a graph? (2 mks)
(a) Define adjacency matrix (1 ½ mks)
(b) (c)Represent the below directed graph using adjacency matrix (5 mks)



Section C

Question One

Write short notes on the following on types of data structure:
(i) Graph (ii) Stack (iii) Queue (iv) Array (v) Tree (10 mks)

Question Two

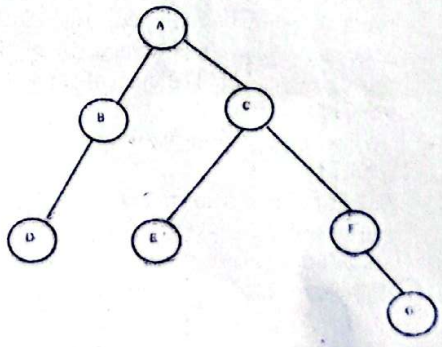
(a) Write Algorithm to perform the following operations
(i) Enqueue (ii) Dequeue (iii) Add (PUSH) item to stack (iv) Remove (POP) item from stack (8 mks)
(b) Mention any four Application of queue (2 mks)

Question Three

(a) With a specific example, describe the following:
(i) Data (ii) Data Item (iii) Graph (iv) Information (6 mks)
(b) The Choice of a particular data model depends on two consideration? Discuss. (2 mks)
(d) Highlight any two advantages of linked list over array data structure (2 mks)

Question Four

(a) When is a tree said to be a complete binary tree? (2mks)
(b) Enumerate any five applications of tree data structure (2 ½ mks)



(c)(i)List the leaves in the tree above? (1 ½ mks)
(ii) What is the height of the tree? (1 mks)
(iii) What is the depth of nodes D, E, G? (3mks)

Question Five

(a) Define Sorting (1 ½ mk)
(b) Write algorithm for :
(i) Insertion sort (ii) Quick sort (4 mks)

(c) Use selection and insertion method to sort the following data elements (4 ½ mks)

40 30 9 20 10 50

AB DG
AC GE
BC HE
BD FH
BE GH
CE IG
CF IH
ED
EF